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Emotion Regulation Strategies and Stress in Irish College Students and Chinese International College Students in Ireland

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ABSTRACT

Little is known about the association between emotion regulation strategies and perceived stress in college students, and in particular, the strategies used by international students. The present research examined if differences exist in the use of emotion regulation strategies between Irish college students and Chinese international college students studying in Ireland, and investigated the relationship between emotion regulation strategies and perceived stress in these two student populations. Chinese students reported more frequent use of cognitive reappraisal and expressive suppression compared with Irish students. There was a statistically significant negative association between the habitual use of cognitive reappraisal and levels of stress in both Irish and Chinese students. There was a significant positive relationship between the habitual use of expressive suppression and levels of stress in Irish college students, but not in Chinese students. The findings highlight the effects of emotion regulation on levels of stress and the importance of cultural context when investigating the association between emotion regulation strategies and perceived stress in students.

Keywords: Chinese, college students, emotion regulation, Irish, stress

According to the Economic and Social Research Institute, the number of international students coming to Ireland continues to increase year to year, with an increase of 45% between the years 2013 and 2017. During these years, China was the top country of origin for non-European students studying in Ireland (see Groarke & Durst, 2019 for full details and figures). This could be due, in part, to the fact that Irish higher education institutes (HEIs) have directly targeted China in their marketing strategies (Clarke et al., 2018). A number of Irish HEIs have partnerships with, and campuses located in, China (Groarke & Durst, 2019) with many of them providing opportunities for Chinese students to study in Ireland. This suggests that there is a considerable degree of student mobility between China and Ireland and supports the rationale for focusing on Chinese international students in Ireland in the present research.

When considering the differences between Ireland and China, Ireland is considered as an individualistic culture, where independence and the autonomy of self is strongly emphasized. However, China is considered as a collectivistic culture, where group relations and group harmony are greatly emphasized (Hofstede, 2001). Hence, it may be particularly stressful for Chinese international students to adjust to the new cultural environment (Chen et al., 2020; Leong, 2015). Additionally, research has indicated that international college students may experience stress due to insufficient language skills, a lack of friends, and homesickness (Forbush & Foucault-Welles, 2016; Harrer et al., 2018).

There are a variety of strategies that international students may use to deal with such stressors and to integrate into the host country (Sullivan & Kashubeck-West, 2015). For example, research on international Chinese students has indicated that socializing and making friends can help these students deal with stressors in their new host country environment (Cheng et al., 2019). A further variable of interest in relation to stress and international students is the use of emotion regulation strategies. It is well outlined in the existing literature that the ability to manage one's emotions in an adaptive manner is critical to mental health (Chervonsky & Hunt, 2019). However, cross-cultural studies have found that people from different cultures may have different ways of understanding, expressing, and coping with emotions (Yoo et al., 2006). For example, in individualistic cultures (such as Ireland), expressive suppression could compromise individuality. In collectivistic cultures (such as China), open emotional expression may be incongruent with their social value systems and cause a disruption to group harmony and group relations (Butler et al., 2007). This suggests that emotion regulation strategies that are typical in the country of origin for international students may differ significantly from those commonly seen in the host country.

There is an absence of research that considers the relationship between emotion regulation (hereafter ER) and stress management among international students. Furthermore, relatively little is known about the difference in ER and stress management between local and international college students. There have been a large number of studies showing that international college students face difficulties in adapting to host cultures and usually experience higher levels of stress when studying in an unfamiliar culture (Cho & Yu, 2015; Han et al., 2017);

therefore, it would be of value to examine which ER strategies are beneficial for this population. In addition, as third-level education can be a stressful experience, colleges may want to introduce emotion management workshops for students, particularly on how to reappraise negative thoughts and stressful events, to help international students adapt to college life and reduce levels of stress.

The current study focuses on Chinese international college students in the host country (Ireland) and investigates how ER influences perceived stress among Chinese international students, and compares them to their host country peers. The first aim of the current research is to examine if differences exist in the habitual use of ER strategies between Irish college students and Chinese international students studying in Ireland. The second aim is to investigate the relationship between ER strategies and perceived stress in these two student populations.

LITERATURE REVIEW

ER can be defined as “extrinsic and intrinsic processes responsible for monitoring, evaluating, and modifying emotional reactions, especially their intensive and temporal features, to accomplish one’s goals” (Thompson, 1994, p. 27). As described by Thompson (1994), the intensive features relate to the intensity of the experienced emotion, and the temporal features relate to onset or persistence of the emotion felt. ER has been found to be broadly related to psychosocial adjustment and mental health (Zahniser & Conley, 2018). Although there are many different frameworks that help to conceptualize the diverse ways individuals can regulate their emotions, the process model of ER has received empirical support from numerous studies and has been widely used to illustrate ER processes (Gross, 1998a, 1998b, 2001, 2013, 2015).

According to the process model, emotions tend to be regulated by numerous processes that involve specific strategies. Among those strategies, cognitive reappraisal and expressive suppression have been identified as commonly used and valuable strategies and have received a considerable amount of attention in the literature (Gresham & Gullone, 2012).

Cognitive Reappraisal, Expressive Suppression, and Mental Health

Cognitive reappraisal involves reinterpreting emotion-eliciting situations in order to change or modulate emotional meaning (Troy et al., 2010). For example, individuals may reinterpret an insult as being reflective of the character of the insulter rather than their own character. That is, by using cognitive reappraisal, individuals attempt to reinterpret an emotion-eliciting situation in a way that alters its meaning and changes its emotional impact. In addition, reappraisal intervenes relatively early and can occur before emotions have been fully elicited and thus may alter the entire subsequent emotional trajectory (Goldin et al., 2008). The habitual use of cognitive reappraisal is usually considered as an adaptive strategy and has been found to be linked with many desirable outcomes, such as positive

emotions, closer interpersonal relationships, a high level of willingness to seek social support, and enhanced well-being (English et al., 2012).

However, Gross (2015) noted that expressive suppression involves a continuous focus on the self in order to prevent the activation of emotional responses. For example, by using expressive suppression, people may hide an emotional response when they hear bad news or may remain silent when they hear something offensive. Existing research has indicated that individuals who use expressive suppression to manage negative emotions, such as anxiety or sadness, are more likely to experience a high intensity of those negative emotions, whereas individuals who use expressive suppression to manage positive emotions, such as happiness, are more likely to dampen their positive emotional experiences (Campbell-Sills et al., 2006). It should be noted that the research discussed above primarily focused on Western populations. Butler and Gross (2009) outlined that it is necessary to consider cultural values when investigating the effects of emotional expression on mental health, particularly when considering other populations.

ER Strategies and Stress

When specifically considering how ER strategies relate to stress responses and stressors, research again suggests that cognitive reappraisal and expressive suppression play key roles; however, the majority of research in this area has examined clinical levels of stress and psychopathologies such as post-traumatic stress disorder. Moore and colleagues (2008) investigated the relationship between cognitive reappraisal and expressive suppression and measures of stress-related reactions in a sample of undergraduate students and trauma-exposed individuals. Their research suggested that expressive suppression was associated with higher self-reported stress symptoms and reappraisal with lower self-reported stress symptoms. Their study did not include a direct measure of stress, but showed the possibility that the habitual use of either cognitive reappraisal or expressive suppression may influence levels of stress. It is also worth noting that the sample was an American sample, with predominantly Caucasian respondents.

Troy and colleagues (2010) found that the habitual use of cognitive reappraisal was associated with fewer depressive symptoms among female participants who reported a higher level of cumulative life stress. The authors concluded that cognitive reappraisal could be regarded as a necessary buffer for individuals who experience higher levels of cumulative life stress. Longitudinal research has also investigated cognitive reappraisal strategies in stressed populations, such as people living with HIV and careers of people with cystic fibrosis (Carrico et al., 2005; Pakenham, 2005). Both of these pieces of research supported the adaptive effects of cognitive reappraisal. However, Troy and Mauss (2011) highlighted that the efficacy of cognitive reappraisal is not well understood, and that much of the existing research focuses on one specific stressor, making it difficult to generalize results across types and intensities of stressors.

Few studies have investigated the relationship between ER strategies and levels of stress in student and international student populations. One recent piece of research did investigate this topic, using qualitative methods. Cheng and colleagues (2019) investigated how Chinese students in the United Kingdom coped with challenges by using ER strategies. From their interviews they identified that their sample of international Chinese students used strategies that aligned with Gross' (1998a) categorization of ER strategies, including expressive suppression and cognitive reappraisal. It is of value to further investigate the use of ER strategies in a larger sample of international Chinese students, and whether these differ from the strategies used by students in the host country. In addition, the ability to use ER strategies is considered an important skill during college life, as most college students are in the period of emerging adulthood (Zahniser & Conley, 2018). This period may be accompanied by pressures from both academics and daily life, such as academic pressures, relationships with friends and family, and financial constraints (Rankin et al., 2018). Therefore, there is value in understanding this for mental health, stress, and support reasons among both local and international students.

Theoretical Framework

Fundamentally, culture is commonly conceptualized as shared symbols, norms, and values specific to a group of people. The most influential cultural theory is Hofstede's national cultural framework (Hofstede, 2001). Within the framework, individualism–collectivism is typically regarded as the most important dimension (Oyserman & Lee, 2008). For example, many cross-cultural psychological differences, such as ER, attitudes, and cognitive styles, have been demonstrated as a dichotomy between a collectivistic orientation found in Asian countries and an individualistic orientation found in Western countries (Minkov et al., 2017). Specifically, people from individualistic cultures emphasize their independence of others, and focus more on personal goals, desires, and motivations (Mesquita, 2001). People within collectivistic cultures generally describe themselves in ways that emphasize empathy and their relatedness to others (Singelis et al., 1995).

Previous research has found that there is a difference in the habitual use of ER strategies and their effects between individualistic and collectivistic cultures (Butler et al., 2007). For instance, people from collectivistic cultures are more likely to report less emotion during an elicitation task and are more likely to report the frequent use of expressive suppression (Mauss & Butler, 2010). One possible explanation could be that free and open emotional expression, particularly of negative emotions, may cause disruptions in group harmony, which has always been highly valued in collectivistic cultures, where any disruptions may be considered as unacceptable (Soto et al., 2011). In individualistic cultures, group harmony has less relevance and the free expression of emotions is more often emphasized (Frijda & Sundararajan, 2007). Moreover, Soto and colleagues (2011) reported that the habitual use of cognitive reappraisal was correlated with positive

mental health outcomes, such as higher levels of life satisfaction and lower levels of anxiety or depression in both Asian and European-American participants.

Yet, the habitual use of expressive suppression may have different consequences for different cultural groups. For example, more expressive suppression is related to negative mental health outcomes, such as higher levels of anxiety and lower levels of positive affect, only among individuals from an individualistic culture (e.g., European or American). In contrast, more expressive suppression is associated with positive outcomes among those from a collectivistic culture (e.g., Asian), such as lower levels of loneliness and improved emotional recovery (Su et al., 2013). Research by Wei and colleagues (2013) suggested that Asian students tend to regulate emotions on their own. The reason for this may be due to perceived shame or embarrassment associated with seeking social support. This is also discussed by Smith and Khawaja (2011) as reasoning for why Asian students may engage in higher levels of suppression as a form of emotion control.

Therefore, based on the culture value dimension of individualism–collectivism and previous research on cultural differences in ER, the following hypotheses were formulated.

Hypothesis 1: Chinese international college students will report more frequent use of expressive suppression than Irish college students.

Hypothesis 2: There will be no difference in the habitual use of cognitive reappraisal between Irish and Chinese students.

Hypothesis 3: There will be a negative relationship between habitual use of cognitive reappraisal and perceived stress in Irish students.

Hypothesis 4: There will be a negative relationship between habitual use of cognitive reappraisal and perceived stress in Chinese students.

Hypothesis 5: Nationality moderates the association between the habitual use of expressive suppression and perceived stress. Specifically, the association between the more frequent use of expressive suppression and higher levels of stress will be seen in Irish students but not in Chinese students.

METHOD

Participants

Inclusion criteria required participants to be over 18 years old, currently studying in a college or university in Ireland (undergraduate or postgraduate), and to self-identify as an Irish or international Chinese student. All data were collected online using convenience sampling. Specifically, we recruited participants through social networks, such as Facebook, and student WeChat groups (similar to WhatsApp groups), which the first author had access to. We also invited participants to share the survey link with other individuals who satisfied the

inclusion criteria (Noy, 2008). International offices in five higher education institutions in Ireland posted the survey link on their social media sites.

Table 1 outlines frequencies for all demographic variables. A total of 170 college students participated in the current study. They were aged between 18 and 36, with a mean age of 23.43 years ($SD = 3.28$). The 170 participants consisted of 93 undergraduate and 77 postgraduate students. With respect to Irish college students, 74 participants (44 females, 30 males; $M = 22.84$ years, $SD = 2.94$) completed the online questionnaire. All the participants in this group self-identified as Irish and were currently studying in a college or university in Ireland. With respect to Chinese international college students, 96 participants (56 females, 40 males; $M = 23.89$ years, $SD = 3.47$) completed the online questionnaire. All the participants in this group self-identified as Chinese and were international students in one of the universities or colleges in Ireland. The majority of Chinese international students ($n = 46$) had spent 1–3 years in Ireland at the time of data collection, 22 Chinese participants had spent less than 1 year, and 28 Chinese participants had spent more than 3 years in Ireland.

Table 1: Frequencies and Valid Percentages for All Demographic Variables

Variable	Frequency (<i>n</i>)		Valid percentage (%)	
	Chinese students	Irish students	Chinese students	Irish students
Gender				
Male	40	30	41.7	40.5
Female	56	44	58.3	59.5
Age				
18–25	67	61	69.8	82.4
26–30	27	10	28.1	13.5
31+	2	3	2.1	4.1
Degree program				
Undergraduate	45	48	46.9	64.9
Postgraduate	51	26	53.1	35.1
Length of stay in Ireland				
Less than				
1 year	22		22.9	
1–3 years	46		47.9	
More than				
3 years	28		29.2	

Measures

Demographic variables in the current study consist of gender, age, nationality, degree program, and length of stay in Ireland (the latter for Chinese international college students only). The two psychological measures used in the current study were the Emotion Regulation Questionnaire (ERQ; Gross & John, 2003), and the Perceived Stress Scale (PSS; Cohen et al., 1983).

The ERQ was used to assess ER strategies. The 10-item scale, which is rated on a 7-point Likert scale (1 = *strongly disagree*, 7 = *strongly agree*), includes two dimensions that assess subjective habitual use of cognitive reappraisal and expressive suppression. We computed a total score for each subscale by adding up the responses to each relevant item. Higher scores on the subscales indicate more frequent use of the ER strategy. The ERQ has been found to have good construct validity, adequate internal consistency for both cognitive reappraisal ($\alpha = .79$), and expressive suppression subscales ($\alpha = .73$), and adequate test–retest reliability ($r = .69$; Gross & John, 2003). In the current study, Cronbach’s alphas were .94 and .86 for cognitive reappraisal and expressive suppression, respectively, in the Irish group. Cronbach’s alphas were .81 and .69 for cognitive reappraisal and expressive suppression, respectively, in the Chinese group.

The PSS was used to measure the degree to which life circumstances are appraised as stressful. The 10-item survey was rated on a 5-point Likert scale (0 = *never*, 4 = *very often*). Total scores can range from 0 to 40, with higher scores indicating a greater degree of perceived stress. We computed the total by adding up the responses to each item. The scale has been widely used for assessing nonspecific perceived stress due to ease of administration and it also has been found to have adequate 2-day ($r = .85$) and 6-week ($r = .55$) test–retest reliability, and good convergent validity (Cohen et al., 1983; Myers et al., 2012). In the current study, Cronbach’s alphas were .93 for the Irish group and .83 for the Chinese group.

Procedure

Once participants clicked the relevant link they were directed to a host website that provided them with an information and consent page. Once participants indicated their consent and that they had read the information page, they were directed to the demographic questionnaire, followed by the ERQ and the PSS. After completing the required questionnaires, participants were presented with a debriefing page. The data were collected from February 2019 to March 2019.

Data Analysis

We carried out descriptive analyses for all the key variables, including means, standard deviations, and assumption testing. Due to sample size and nonnormal distribution, we used the Mann-Whitney U test to determine if there were differences in cognitive reappraisal and expressive suppression scores between Irish students and Chinese students. We conducted a hierarchical regression analysis to investigate the relationship between cognitive reappraisal, expressive suppression, and perceived stress by nationality. We included demographic control variables in the regression. A hierarchical regression is appropriate here as it allows for the investigation of the relationship between these variables, while considering an interaction term (interaction between ER strategy and nationality) and demographic control variables.

RESULTS

Table 2 outlines the average scores for Irish and Chinese participants on the cognitive appraisal, expressive suppression, and perceived stressed measures.

Table 2: Descriptive Statistics of All Continuous Variables

Variable	<i>M</i>	95% CI	<i>SEM</i>	Median	<i>SD</i>	Range
Cognitive reappraisal						
Chinese students	29.05	[27.94, 30.22]	.56	29.0	5.49	15–42
Irish students	24.26	[22.41, 26.08]	.95	22.5	8.21	12–41
Expressive suppression						
Chinese students	16.45	[15.47, 17.34]	.49	16.5	4.84	4–28
Irish students	9.46	[8.58, 10.41]	.46	9.0	4.00	4–26
Perceived stress						
Chinese students	20.95	[19.90, 21.95]	.54	21.00	5.32	9–40
Irish students	23.43	[21.6, 25.2]	.91	23.00	7.89	8–36

Differences in Expressive Suppression and Cognitive Reappraisal Scores

A Mann-Whitney *U* test indicated that cognitive reappraisal scores for Chinese students (median = 29, mean rank = 98.69) were statistically significantly higher than for Irish students (median = 22.5, mean rank = 68.51; *U* = 4,809, *z* = 3.95, *p* < .001). The effect size was medium (*r* = .3), according to Cohen (1988).

Expressive suppression scores for Chinese students (median = 16.5, mean rank = 113.26) were statistically significantly higher than for Irish students (median = 9, mean rank = 49.49; *U* = 6216, *z* = 8.39, *p* < .001). The effect size was large (*r* = .6), according to Cohen (1988).

Relationship Between Cognitive Reappraisal, Expressive Suppression, and Perceived Stress

We performed a hierarchical multiple regression analysis to investigate if cognitive reappraisal could predict perceived stress, after controlling for demographic variables. In the first step, three variables were included: gender, age, degree program (undergraduate or postgraduate). This model was not statistically significant: *F*(3, 165) = 1.70, *p* = .17. In the second step, two variables were included: nationality and cognitive reappraisal scores. This model was statistically significant—*F*(5, 163) = 22.27, *p* < .001—and explained 38.8% of variance in levels of stress. After the entry of interaction term (Cognitive

Reappraisal \times Nationality) at Step 3, the total variance explained by the model was 43.1% ($F[6, 162] = 22.20; p < .001$). There was a statistically significant moderator effect of nationality, as evidenced by a statistically significant increase in total variation explained of 4.5% ($F[1, 162] = 13.38, p < .001$; see Table 3). Simple slopes analysis revealed that there was a statistically significant negative linear relationship between habitual use of cognitive reappraisal and levels of perceived stress in both Irish college students ($B = -.73, SE = .07, p < .001$, and in Chinese international college students ($B = -.29, SE = .10, p = .002$). However, the strength of the relationship is stronger in Irish college students than in Chinese international college students.

Table 3: Hierarchical Multiple Regression Model Predicting Levels of Stress

Variable	<i>R</i>	<i>R</i> ²	<i>R</i> ² change	<i>B</i>	<i>SE</i>	β	<i>t</i>
Step 1	.17	.03					
Gender				0.02	1.04	.001	0.02
Age				-0.21	0.22	-.10	-0.96
Degree program				-1.13	1.44	-.08	-0.79
Step 2	.64	.41***	.38***				
CR				-0.58	0.60	-.63***	-9.81
Nationality				0.42	0.87	.03	0.49
Step 3	.67	.45***	.04***				
CR				-0.73	0.07	.80***	-10.38
Nationality				-11.42	3.34	-.85*	-3.41
CR \times Nationality				0.43	0.12	.97***	3.66

Note: CR = cognitive reappraisal.

* $p < .05$; *** $p < .001$.

We performed a hierarchical multiple regression analysis to investigate if expressive suppression could predict perceived stress, after controlling for demographic variables.

In the first step, we included three variables: gender, age, and degree program (undergraduate or postgraduate). This model was not statistically significant: $F(3, 165) = 1.69, p = .16$. In the second step, two variables were included: nationality and expressive suppression scores. This model was statistically significant— $F(5, 163) = 3.37, p = .006$ —and explained 9.4% of variance in levels of stress. After the entry of interaction term (Expressive Suppression \times Nationality) at Step 3, the total variance explained by the model was 18.4% ($F[6, 162] = 6.08; p < .001$). There was a statistically significant moderator effect of nationality, as evidenced by a statistically significant increase in total variation explained of 9%, $F(1, 162) = 17.90, p < .001$ (see Table 4). Simple slopes analysis revealed that there was a statistically significant positive linear relationship ($B = .91, SE = .18$) between

habitual use of expressive suppression and levels of perceived stress in Irish college students, $p < .001$, but not in Chinese international college students ($B = -.04$, $SE = .13$; $p = .78$).

Table 4: Hierarchical Multiple Regression Model Predicting Levels of Stress

	<i>R</i>	<i>R</i> ²	<i>R</i> ² change	<i>B</i>	<i>SE</i>	β	<i>t</i>
Step 1	.17	.03					
Gender				0.02	1.04	.001	0.02
Age				-0.21	0.22	-.10	-0.96
Degree program				-1.13	1.44	-.08	-0.79
Step 2	.31	.09*	.06*				
ES				0.30	0.11	.25*	2.63
Nationality				-4.24	1.29	-.32*	-3.29
Step 3	.43	.18***	.09***				-
ES				0.91	0.18	.77***	5.05
Nationality				7.06	2.94	.53*	2.40
ES × Nationality				-0.95	0.22	-.13***	-4.23

Note: ES = Expressive Suppression

* $p < .05$; *** $p < .001$.

DISCUSSION

The aim of the current research was to investigate whether there is a difference in the habitual use of ER strategies (cognitive reappraisal and expressive suppression) between Irish college students and Chinese international college students, and to examine the association between these two ER strategies and levels of stress in Irish and Chinese students. The current research contributes to the understanding of how international students, in this case specifically Chinese students, may deal with stressors in their host country and how these responses may differ to their Western peers. Furthermore, this research also contributes to the field of ER and mental health by investigating the relationship between ER strategies and perceived stress among college students and international students.

Expressive Suppression and Perceived Stress

Results found that expressive suppression scores for Chinese students were statistically higher than for Irish students, indicating that Chinese students reported more frequent use of expressive suppression than Irish students. This finding is in line with previous research such as that by Soto and colleagues (2011), where Chinese college students reported using expressive suppression with significantly greater frequency than European American college students. Matsumoto and colleagues (2008) demonstrated that participants from Western

countries, such as the United States and Canada, reported less use of expressive suppression than participants from East Asian countries, such as China, Japan, and Korea.

The current finding is also congruent with the culture norms of emotion suppression. For example, expressive suppression is encouraged and used more frequently in East Asian cultures (Sun & Lau, 2018). People from East Asian cultures (i.e., collectivistic cultures) are more likely to define themselves based on their social roles and relationships with social groups and are more likely to value the needs of their groups over their personal needs. Hence, expressive suppression is used more frequently in that culture, as it is helpful for achieving group goals, preserving relationships with social groups, and maintaining social harmony (Tsai & Lu, 2018). In contrast, expressive suppression is discouraged in Western cultures (Roberts et al., 2008). From an early age, children from Western countries (i.e., individualistic cultures) are encouraged to speak up and express their identity and needs through emotional expression (Matsumoto, 2006). Furthermore, emotional expression is considered as a way of asserting individuality and autonomy, which could also be regarded as a societal norm in European American cultural contexts (Su et al., 2015). This societal norm may result in less frequent use of expressive suppression among Irish college students compared with the international Chinese students in the current study.

The current research also found a statistically significant moderator effect of nationality. That is to say, the association between the use of expressive suppression and levels of stress was different for Irish students and Chinese students. Specifically, there was a significant positive relationship between the habitual use of expressive suppression and levels of stress in Irish students, whereas this relationship was absent in Chinese students. Again, this is congruent with previous findings. For instance, Soto and colleagues (2011) found that expressive suppression was correlated with adverse psychological functioning for European American students, but not for Chinese students. Butler and colleagues (2007) reported that the habitual use of expressive suppression was linked with negative emotional experience in participants who hold Western-European values, but this relationship was reversed in participants who hold Asian values. In their meta-analysis, Hu and colleagues (2014) also reported that the effect of expressive suppression on negative mental health outcomes differs between Western and Eastern cultures, as the strength of the association between the frequent use of expressive suppression and negative mental health outcomes was stronger for Western participants.

The current results on the effect of nationality are also consistent with the idea that culture may shape adaptive or maladaptive ER (Wei et al., 2013). As mentioned previously, expressive suppression is generally regarded as maladaptive in individualistic cultural contexts (e.g., Ireland), as it may discourage individualistically focused behaviors such as authenticity and self-assertion. However, the habitual use of expressive suppression could be more valuable in collectivistic cultural contexts (e.g., China), as it could be used to achieve goals and group harmony (Mauss et al., 2010). Therefore, behaviors that are congruent with a culture's values may receive more social reward and become

more practiced (Ford & Mauss, 2015). As a result, the habitual use of expressive suppression in Irish college students is not congruent with the cultural context and hence associated with higher levels of stress in the current study. In contrast, this relationship was absent in Chinese students, as the habitual use of expressive suppression is consistent with Chinese cultural context.

Indeed, research has indicated that emotions are actually regulated more quickly through suppression than reappraisal for Chinese individuals (Yuan et al., 2014). Similar findings are suggested from the current research and can add to the argument that suppression is an effective stress strategy for Chinese students. This should be considered in a practical sense. As previously outlined, suppression may not be viewed as culturally beneficial in an Irish context, and may be seen as maladaptive. It may be beneficial for student supports provided by Irish HEIs to help Chinese students to differentiate ER strategies in different contexts and increase their flexibility with respect to when and with whom to suppress their emotions (Wei et al., 2013).

Cognitive Reappraisal and Perceived Stress

Cognitive reappraisal scores for Chinese students were statistically significantly higher than for Irish students, indicating that Chinese students reported use of cognitive reappraisal more frequently compared with Irish students. Interestingly this contradicts the research by Soto and colleagues (2011) who reported that there were no statistically significant differences in the habitual use of cognitive reappraisal between Chinese and European American students. Kwon and colleagues (2013) also found there were no cultural differences (i.e., Western cultures and Eastern Asian cultures) in the habitual use of cognitive reappraisal between Korean and American college students.

There was a statistically significant negative association between the habitual use of cognitive reappraisal and levels of stress in both Irish and Chinese students, indicating that the more frequent use of cognitive reappraisal, the lower levels of stress participants may experience. These results are congruent with previous studies. For example, more frequent use of cognitive reappraisal has been found to be correlated with less perceived stress in various population samples such as psychology graduate students (Myers et al., 2012) and adolescents (Boyes et al., 2016). Furthermore, research has indicated that increased use of cognitive reappraisal can also be negatively related to both behavioral and emotional problems (Flouri & Mavroveli, 2013) and can be positively related to positive mental health outcomes (Hu et al., 2014). However, it is worth noting that the strength of the relationship between the habitual use of cognitive reappraisal and lower levels of stress is weaker for Chinese students than for Irish students in the current study. Although some studies have reported that there is no significant moderating effect of culture or nationality on the association between the use of cognitive reappraisal and mental health, the current study found that nationality moderates the association between the use of cognitive reappraisal and perceived stress. It is still necessary for future research to investigate whether the role of

culture influences the strength of that association among the general population (Potthoff et al., 2016).

Limitations

There are some limitations that should be considered in relation to the current research. The sample size and imbalance in nationality numbers should be considered when reviewing the results of the current study. Future research, using larger sample sizes, may also wish to consider the benefits of applying structural equation modeling procedures to their data (Barrett, 2007; Westland, 2012).

It should also be noted that all participants completed the original English version of the questionnaires. There is potential that this could have impacted Chinese students' understanding of the questionnaires. However, the minimum language requirement for international students entering third-level institutions in Ireland is upper intermediate level, meaning that participants have the ability to understand questionnaires and give responses (Sawir et al., 2008).

Future Research

It would be of benefit for future research to use different methods to measure ER and to investigate if the results of the current study could be replicated. For example, future research could assess daily ER strategies used by participants and examine how the effects of ER on levels of stress vary on a daily basis (Blalock et al., 2016), and investigate individual characteristics that contribute to different ER strategies. The design of the present study means that results are correlational and should be interpreted as such. It may be of benefit for future research to investigate causal relationships between the variables. Future research may also wish to investigate the relationship between ER strategies and more specific stressors (e.g., academic stress). It would also be of value for future research to investigate whether the length of stay among international students in the host country influences the ER or influences the association between ER strategies and levels of stress. It should be noted that the current study did not find significant differences in ER strategies among Chinese international students who spent less than 1 year, 1–3 years, and more than 3 years at the time of data collection in Ireland. Future research may wish to consider length of stay as a continuous variable and the effect of such on ER strategies, as researchers have found individuals who interact or cooperate with local people over time are more likely to have similar patterns of emotional experience (De Leersnyder et al., 2011). In addition, qualitative approaches may provide rich and detailed information about delivery of mental health services (Palinkas, 2014; Xiong & Zhou, 2018). Future research, involving mixed qualitative and quantitative methods, might help to explain ER among Chinese international students and their personal stories in Ireland.

CONCLUSION

The number of Chinese international students studying in Ireland is increasing, but there is limited research examining mental health among this population in Ireland. The current study investigated how ER influences perceived stress among Chinese international college students and compared them to their host country peers (i.e., Irish college students). The findings highlight the importance of considering nationality differences and cultural norms when examining ER and mental health among Chinese international college students in the new host country environment. More emphasis should be put on improving the understanding of the relationship between use of coping strategies and mental health among international students. HEIs could incorporate emotion coaching and stress management workshops into international students' induction programs. However, when stress supports are being provided by Irish HEIs to international students, consideration must be given to the kind of advice and supports provided, with an awareness of the cultural differences.

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